



### Declaration of Jay P. Nelkin

I, Jay P. Nelkin, president of Viridian Resources, L.L.C., Houston, TX, USA, do solemnly declare that:

- 1) For the past 7 years, I have served as the president of Viridian Resources, L.L.C., of Houston, TX, which is a leading company in the field of phytomining and phytoextracting with metal hyperaccumulator plants. As president, my responsibilities have included supervising Viridian Resources' scientific research program. My responsibilities have also included supervising all aspects of Viridian Resources' scientific research in the areas of phytomining, phytoremediation and phytoextraction of metals. I have actively participated in the research effort and am a co-author of several of the scientific papers in the field.
  
- 2) As a result of the above, I am intimately familiar with various phytomining techniques, including the effects of soil pH on metal accumulation in hyperaccumulator plants. For example, in one study as part of Viridian Resources' research program, *Alyssum* species were cultivated in various soil types while soil pH was adjusted. The resulting concentration of metal accumulated within and phytoextracted from each species was then measured. The results are reported as follows:

Soil Type	Alyssum Species	Soil pH	Plant Ni concentration (mg/kg)	Quantity of Ni Phytoextracted (mg/pot)
Welland mineral	<i>A. murale</i>	5.24	3440	76
		5.70	3940	80
		6.54	6490	135
		7.60	6980	168
	<i>A. corsicum</i>	5.10	2380	53
		5.60	4450	102
		6.50	9060	188
		7.66	9000	222
Quarry muck	<i>A. murale</i>	5.60	1570	35
		6.10	3032	41
		6.79	5000	107
		7.34	5600	125
	<i>A. corsicum</i>	5.69	2240	56
		5.97	2550	64
		6.77	5300	122
		7.30	6430	169

3) As seen from the above results, metal accumulation within each *Alyssum* species occurs at pH values above 7.0. In particular, it is noted that in the four pH series listed in the above table, metal accumulation (Plant Ni Concentration) is shown at soil pH values of 7.60, 7.66, 7.34 and 7.30. Similarly, it is shown that metal is extracted (Quantity of Ni Phytoextracted) from each species at all pH values.

4) In addition, the above results show that metal concentration within each *Alyssum* species actually increases when soil pH is increased. For example, in three of the four pH series, the concentration of metal within each species increases at each higher pH value. Similarly, the amount of metal extracted from each species increases as soil pH is increased.

5) It is pointed out that in only one series, *Alyssum murale* (Welland mineral), does metal concentration appear to level off at the highest pH value. However, in even this series, the amount of metal extracted increases with each increase in soil pH.

6) I declare that all statements made herein of my knowledge are true and that all statements made on information and belief are believed to be true, and further that these statements are made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment or both, under Section 1001 of Title 18 of the United States Code and that willful false statements may jeopardize the validity of the opinion to which this declaration is attached.

Signed   
Jay P. Nelkin

Date 2/13/06